



# Te Niwha

## Research Project Impact Case Study

Addressing inequity in antibiotic use: strengthening antimicrobial stewardship throughout Aotearoa to Improve the health of New Zealanders.

Te Whata Kura - a national antibiotic guideline for Aotearoa.

### Key researchers

**Stephen Ritchie<sup>1,4</sup>, Lily Fraser<sup>3</sup>, Karen Wright<sup>4</sup>, Sharon Gardiner<sup>1</sup>, Sarah Metcalf<sup>1</sup>, Max Bloomfield<sup>1</sup>, Emma Best<sup>1,4</sup>, Stephen Chambers<sup>2</sup>, Eamon Duffy<sup>1</sup>, Thomas Hills<sup>1</sup>, Gigi Lim<sup>4</sup>, Alesha Smith<sup>2</sup>, Leanne Te Karu<sup>4</sup>, Mark Thomas<sup>4</sup>.**

<sup>1</sup>Te Whatu Ora

<sup>2</sup>Otago University

<sup>3</sup>Turuki Healthcare

<sup>4</sup>University of Auckland

## Introduction

In Aotearoa Māori and Pacific people experience high rates of infectious diseases and are more likely to experience adverse health outcomes following infections. Providing prompt effective antimicrobial treatment is an important part of providing good quality care and can prevent death or harm from many infections. Currently, there is no national antibiotic guideline in Aotearoa that sets out the optimal treatment of infections. This lack of a highly accessible, unified, and trusted national antibiotic guideline is problematic, leading to a range of different guidelines being used across the country and increasing the likelihood that inappropriate treatment is provided.

We are developing national antibiotic guidelines for use in Aotearoa, prioritising user experience and fair and just prescribing in its design. We interviewed prescribers using in-depth semi-structured interviews to determine their past experiences and current priorities with accessing guidelines and antibiotic prescribing advice. The guideline has been developed by careful review of existing antibiotic guidelines, followed by development of consensus draft guidelines by a panel of infectious disease clinicians. Lastly, we engaged in wide consultation with key experts (including all antibiotic stewardship committees in Aotearoa) using Delphi methodology.

## Results

In our engagement phase, 30 primary (n=17) and secondary care (n=13) prescribers from throughout Aotearoa were interviewed; the participants included 7 Māori General Practitioners and 5 nurse prescribers (including 2 Māori healthcare providers). Common themes to emerge from the interviews included recognition of resource constraints that influence prescribing practice such as time, affordability of healthcare, and proximity and access to healthcare. Prescribers value speed and ease of guideline access, availability of advice about prescribing in less common circumstances (e.g. renal failure, pregnancy, allergies), provision of update alerts (e.g. stock availability, funding changes...etc), and the ability to easily share patient-facing educational content.

This knowledge has resulted in the development of Te Whatu Kura, a new antibiotic guideline for Aotearoa. The name recognises antibiotics as a precious resource that needs protecting and positions the guideline as a place where knowledge is stored. Understanding prescriber experience enabled innovative design and digital solutions to be incorporated into Te Whatu Kura. Te Whatu Kura is in the final stages of development and will soon be released for review and feedback by prescribers and stakeholders throughout Aotearoa, prioritising feedback from Māori and Pacific healthcare providers.

## Impact

Te Whatu Kura will have benefits for prescribers and the people of Aotearoa, supporting equitable infectious disease outcomes. Te Whatu Kura translates existing research into policy and will provide consistent, Aotearoa-relevant antibiotic advice for our prescribers. Prior research has clearly shown that antibiotic guideline use improves clinical and economic outcomes.

Importantly, Te Whatu Kura will enable us to examine the appropriate use of antibiotics (use that is consistent with antibiotic guidelines) in primary care and hospital settings. The guideline will provide a basis to analyse equity in antibiotic prescriptions for Māori and Pacific peoples, providing evidence for future research and innovations to promote behaviour change and fair and just prescribing.

The design of Te Whatu Kura is innovative, through the prioritisation of the user-experience and equity, and in our ability to efficiently receive and collate feedback and solutions from users. We expect that this approach and design will inform the development of other clinical guidelines.

Te Whatu Kura is an important tool for future pandemics. The design and digital build enables new treatment algorithms to be developed and kept up to date extremely quickly, without significant time delays or the need for any hard coding expertise. Coupled with the systems that we are developing to monitor antibiotic use, we will be able to report appropriate and inappropriate medication use as part of our pandemic response – to ensure that effective treatments are received appropriately and equitably within our population.

## Te Niwha Research Project - Impact Case Study

Finally, Te Whata Kura is a necessity in Aotearoa's response to our very high antibiotic use. Development of a national antibiotic guideline was a key recommendation of the NZ Antimicrobial Action Plan and of Kotahitanga: Uniting Aotearoa against infectious disease and antimicrobial resistance – a report from the Prime Minister's Chief Science Advisor. Improving the use of antibiotics in Aotearoa will reduce harms related to adverse drug reactions and will help to limit the development of antimicrobial resistance in Aotearoa.